



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,534	07/30/2001	Hisashi Yajima	1163-0348P	9045
2292	7590	12/13/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			AZAD, ABUL K	
			ART UNIT	PAPER NUMBER
			2654	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,534

Applicant(s)

YAJIMA ET AL.

Examiner

ABUL K. AZAD

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9-14,16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 3,8 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/31/01; 8/14/01; 6/13/03; 10/24/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-20 are pending in this Office Action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4, 6, 7, 9-14, 16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agassy et al. (US 6,424,940) in view of Applicant admitted prior art (Figures 27-30).

As per claim 1, Agassy teaches, "a speech coding apparatus for coding an input signal consisting of one of a speech signal and a voice-band non-speech signal", said speech coding apparatus comprising:

"frequency parameter generating means for outputting, when the input signal is the speech signal, frequency parameters that indicate characteristics of a frequency spectrum of the speech signal, and for outputting, when the input signal is the non-speech signal, frequency parameters obtained by correcting frequency parameters that indicate characteristics of a frequency spectrum of the non-speech signal" (col. 3, lines 1-65, here LP coefficients is frequency parameters and input comprising with a speech and a voice-band non-speech signals);

“a quantization codebook for storing codewords of a predetermined number of frequency parameters” (Fig. 1, element 12); and

“quantization means for selecting codewords corresponding to the frequency parameters output from said frequency parameter generating means by referring to said quantization codebook” (Fig. 1, element 12).

Agassy does not explicitly teach, “discriminating means for deciding as to whether the input signal is a speech signal or a non-speech signal”. However, Applicant’s admitted prior art Fig. 30 teaches, “discriminating means for deciding as to whether the input signal is a speech signal or a non-speech signal” (Fig. 30, element 602). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a discriminating means so that will reduce error calculation for speech signal for gain compensation.

As per claim 2, Agassy does not explicitly teach, “wherein the frequency parameters are line spectral pairs”. However, applicant’s admitted prior art teaches to convert LPC to LSP (Specification, Page 2, lines 8-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to convert LPC to LSP because one ordinary skill in the art would readily recognize that would reduce the dynamic range of the parameters and improve coding efficiency.

As per claim 4, Agassy teaches, “wherein said frequency parameter generating means comprises a linear prediction analyzer for computing linear prediction coefficients from the input signal, at least one bandwidth expanding section for carrying

Art Unit: 2654

out bandwidth expansion of the linear prediction coefficients when the input signal is the non-speech signal" (col. 3, lines 1-65).

Agassy does not explicitly teach, "at least one converter for generating line spectral pairs from the linear prediction coefficients passing through the bandwidth expansion as the frequency parameters". However, applicant's admitted prior art teaches to convert LPC to LSP (Specification, Page 2, lines 8-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to convert LPC to LSP because one ordinary skill in the art would readily recognize that would reduce the dynamic range of the parameters and improve coding efficiency.

As per claim 6, Agassy does not explicitly teach, quantization means comprises a first quantization section and a second quantization. However, applicant's admitted prior art teaches, quantization means comprises a first quantization section and a second quantization (Figure 28, elements 301-303). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a quantization means as claimed because one ordinary skill in the art would readily recognize that combinations of such quantized samples as minimizing the power of quantization error signal passing through the weighting.

As per claim 7, Agassy teaches, "a non-speech signal detector for detecting a type of the non-speech signal from the input signal, wherein said frequency parameter generating means comprises a correcting section for correcting, when the input signal is the non-speech signal, the frequency parameters of the input signal according to the

Art Unit: 2654

type of the non-speech signal detected by the non-speech signal detector" (col. 8, lines 32-45).

As per claims 9-14, 16 and 18-20, they are interpreted and thus rejected for the same reasons set forth in the rejection of claims 1, 2, 4, 6 and 7.

4. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agassy et al. (US 6,424,940) as applied to claims 1 and 12 above, and further in view of Lee et al. (US 5,913,189).

As per claims 5 and 17 Agassy does not explicitly teach, white noise superimposing section. However, Lee teaches white noise superimposing section (col. 3, line 54 to col. 4, line 56). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use white noise superimpose section because Lee teaches adding the low-level noise provides sufficient signal bandwidth to stabilize the compression system's transfer function and permit reliable and robust tone signal transmission (col. 4, lines 50-56).

Allowable Subject Matter

5. Claims 3, 8 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-3838**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richemond Dorvil**, can be reached at **(703) 305-9645**.

Any response to this action should be mailed to:

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Or faxed to:

(703) 872-9314

(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center's Customer Service Office at telephone number **(703) 306-0377**.

A handwritten signature in black ink, appearing to read 'A.K. Azad', with a stylized flourish at the end.

Abul K. Azad

December 6, 2004